We Claim:

1. A method for measuring and setting of a voltage of an adjustable internal reference voltage source of an integrated semiconductor circuit, which comprises:

comparing a reference voltage to an external comparison voltage with a comparator having two inputs;

forming a measured value for the reference voltage that is to be set in accordance with a result of the comparison;

switching a commutator by one of a clock-control and a software-control to alternatively apply the reference voltage and the external comparison voltage to the two inputs of the comparator at the same time;

varying one of the reference voltage and the external comparison voltage in a direction of a setpoint voltage value until the comparator output changes its logic value at each switched stage of the commutator;

buffering the voltage values present for each switched state of the commutator when the logic value of the comparator output changes and respectively varied in the preceding step;

forming an average value for the reference voltage from the stored voltage values; and

setting the reference voltage as a function of the average value formed in the preceding step.

2. The method according to claim 1, which further comprises performing the varying step by maintaining the internal reference voltage constant while varying the external comparison voltage.

3. The method according to claim 1, which further comprises performing the switching and varying steps by:

in a first switched state of the commutator, firstly varying the external comparison voltage in a voltage range around the setpoint voltage value with the reference voltage kept constant, and performing the buffering step by buffering that voltage value of the external comparison voltage at which the comparator output changes its logic state; and

in the second switched state of the commutator in which the reference voltage and the external comparison voltage are interchanged between the two comparator inputs in comparison with the first switched state of the commutator, varying the external comparison voltage in a voltage range around the

setpoint voltage value with the reference voltage kept constant, and performing the buffering step by storing that voltage value of the external comparison voltage at which the comparator output changes its logic state.

4. The method according to claim 3, which further comprises incrementally varying the external comparison voltage.

5. The method according to claim 1, which further comprises:

incrementally varying the external comparison voltage; and

assuming the two switched states and of the commutator for each voltage value of the external comparison voltage.

6. The method according to claim 2, which further comprises:

incrementally varying the external comparison voltage; and

assuming the two switched states and of the commutator for each voltage value of the external comparison voltage.

7. The method according to claim 1, which further comprises maintaining the external comparison voltage constant at a setpoint value for the internal reference value while varying the internal reference voltage.

8. The method according to claim 7, which further comprises performing the switching and varying steps by:

in a first switched state of the commutator, varying the reference voltage in a voltage range around the voltage value of the external comparison voltage that is kept constant with the external comparison voltage kept constant, and performing the buffering step by storing that voltage value of the reference voltage at which the comparator output changes its logic state; and

in the second switched state of the commutator, varying the reference voltage in a voltage range around the voltage value of the external reference voltage that is kept constant with the external comparison voltage kept constant, and performing the buffering step by storing that voltage value of the internal reference voltage at which the comparator output changes its logic state.

9. The method according to claim 8, which further comprises incrementally varying the internal reference voltage.

10. A method for measuring and setting of a voltage of an adjustable internal reference voltage source of a dynamic semiconductor memory, which comprises:

comparing a reference voltage to an external comparison voltage with a comparator having two inputs;

forming a measured value for the reference voltage that is to be set in accordance with a result of the comparison;

switching a commutator by one of a clock-control and a software-control to alternatively apply the reference voltage and the external comparison voltage to the two inputs of the comparator at the same time;

varying one of the reference voltage and the external comparison voltage in a direction of a setpoint voltage value until the comparator output changes its logic value at each switched stage of the commutator;

buffering the voltage values present for each switched state of the commutator when the logic value of the comparator output changes and respectively varied in the preceding step;

forming an average value for the reference voltage from the stored voltage values; and

setting the reference voltage as a function of the average value formed in the preceding step.

11. A device for carrying out the method according to claim 1, comprising:

an internal reference voltage source providing an internal reference voltage;

an external comparison voltage source providing an external comparison voltage;

a comparator having two comparator inputs;

a commutator having two commutator inputs and two commutator outputs;

each of said two commutator inputs connected to a respective one of said internal reference voltage source and said external comparison voltage source; and

each of said two commutator outputs directly connected to said two comparator inputs, said commutator alternately switching said two comparator inputs between said internal reference voltage and said external comparison voltage.

12. The device according to claim 11, including a control unit connected to said commutator for switching said commutator.

13. The device according to claim 11, wherein:

the integrated semiconductor circuit is part of a chip; and

at least said commutator and said comparator are provided on the chip.

14. The device according to claim 12, wherein said control unit is a program-controlled processor unit programmed:

to store the voltage values present for each switched state of the commutator; and

to form an average value for the reference voltage from the stored voltage values.

15. The device according to claim 14, wherein said processor unit has a means for storing the voltage values.

16. The device according to claim 14, wherein said processor unit has a means for forming an average value for the reference voltage from the stored voltage values.

17. The device according to claim 14, wherein said processor unit has a storage device for storing the voltage values.

18. The device according to claim 14, wherein said processor unit has an average value forming device for forming an average value for the reference voltage from the stored voltage values.

19. The device according to claim 14, wherein:

an external testing device tests the integrated semiconductor circuit; and

said control unit is part of the external testing device.

20. A device for measuring and setting of a voltage of an adjustable internal reference voltage source of an integrated semiconductor circuit, comprising:

an internal reference voltage source providing an internal reference voltage;

an external comparison voltage source providing an external comparison voltage;

a comparator having two comparator inputs and a comparator output for outputting a logic value;

a commutator having switched stages, a switch input, two commutator inputs, and two commutator outputs;

each of said two commutator inputs connected to a respective one of said internal reference voltage source and said external comparison voltage source;

each of said two commutator outputs directly connected to a respective one of said two comparator inputs;

said commutator alternately switching said two comparator inputs between said internal reference voltage and said external comparison voltage;

said comparator comparing said internal reference voltage to said external comparison voltage;

a switch control having a switch output connected to said switch input of said commutator for alternatively applying said internal reference voltage and said external comparison voltage to said two comparator inputs at the same time; and

one of said internal reference voltage and said external comparison voltage are varied in a direction of a setpoint voltage value until said comparator output changes said logic value at each switched stage of said commutator.

21. The device according to claim 20, including a control unit configured to:

to form a measured value for said internal reference voltage that is to be set in accordance with a result of a comparison of said comparator;

to buffer voltage values present for each of said switched states of said commutator when said logic value changes and said one of said internal reference voltage and said external comparison voltage is varied;

to form an average value for said internal reference voltage from stored voltage values; and

to set said internal reference voltage as a function of said average value formed.

22. The device according to claim 20, wherein said switch control is a clock-control

23. The device according to claim 20, wherein said switch control is a software-control

24. A device for measuring and setting of a voltage of an adjustable internal reference voltage source of a dynamic semiconductor memory, comprising:

an internal reference voltage source providing an internal reference voltage;

an external comparison voltage source providing an external comparison voltage;

a comparator having two comparator inputs and a comparator output for outputting a logic value;

a commutator having switched stages, a switch input, two commutator inputs, and two commutator outputs;

each of said two commutator inputs connected to a respective one of said internal reference voltage source and said external comparison voltage source;

each of said two commutator outputs directly connected to a respective one of said two comparator inputs;

said commutator alternately switching said two comparator inputs between said internal reference voltage and said external comparison voltage;

said comparator comparing said internal reference voltage to said external comparison voltage;

a switch control having a switch output connected to said switch input of said commutator for alternatively applying said internal reference voltage and said external comparison voltage to said two comparator inputs at the same time; and

one of said internal reference voltage and said external comparison voltage are varied in a direction of a setpoint voltage value until said comparator output changes said logic value at each switched stage of said commutator.